

REMARKS

Claims 1-9 are pending in the application.

An Embodiment of the Present Invention

As shown in Figs. 1-5 of the present application, the present invention is directed to a valve system for an internal combustion engine that includes:

intake-side rocker arms (5 and 7) having ends thereof connected to intake valves (9) and supported on an intake-side rocker shaft (2) such that the intake-side rocker arms (5 and 7) rock. The intake-side rocker arms (5 and 7) are driven by intake cams (10, 20). The intake-side rocker arms (5 and 7) include,

a first rocker arm (5) having an end thereof connected to the intake valve (9) and supported on the intake-side rocker shaft (2) such that the first rocker arm (5) rocks, and being driven by a first low-lift cam (10), and

a second rocker arm (7) having an end thereof connectable to the first rocker arm (5) and supported on the intake-side rocker shaft (2), the second rocker arm (7) being adapted to engage with the first rocker arm at an angle substantially perpendicular to a center longitudinal axis of the intake valve (9), such that the second rocker arm (7) rocks, the second rocker arm (7) being driven by a high-lift cam (20) causing a larger valve lift than the first low-lift cam (10).

Claim Rejections - 35 U.S.C. § 103

(a) Claims 1-5, 8, and 9 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Sanshin (JP 2001-336407) in view of Voll (USP 4,713,704). This rejection is respectfully traversed.

(Claims 1-5 and 8)

Sanshin discloses, in Figs. 4, 5, 8, and 9, a valve mechanism that includes,
a first rocker arm 31a having an end thereof connected to the intake valve 25 and supported on an intake-side rocker shaft 33, such that the first rocker arm 31a rocks, and being driven by a first cam 31a, and
a second rocker arm 31b having an end thereof connectable to the first rocker arm 31a and supported on the intake-side rocker shaft 33, such that the second rocker arm 31b rocks, and being driven by a cam 30b.

However, in Sanshin, the second rocker arm 31b is adapted to engage with the first rocker arm 31a at an angle substantially parallel to a center longitudinal axis of the intake valve 25 (see, for example, Figs. 8 and 9).

Therefore, in Sanshin, the second rocker arm 31b is not "adapted to engage with the first rocker arm at an angle substantially perpendicular to a center longitudinal axis of the intake valve," as recited in claim 1.

With regard to the Voll reference, the Examiner states that it teaches that shaft which requires a higher stiffness has a larger diameter.

However, even assuming that Sanshin and Voll can be combined, which Applicants do not admit, Sanshin in view of Voll fails to disclose or suggest the second rocker arm 31b of Sanshin is "adapted to engage with the first rocker arm at an angle substantially perpendicular to a center longitudinal axis of the intake valve," as required in claim 1.

Claims 2-5, variously dependent on claim 1, are allowable at least for their dependency on claim 1.

Claim 8 is allowable at least for the similar reasons as stated in the foregoing with regard to claim 1.

(Claim 9)

Similarly, even assuming that Sanshin and Voll can be combined, which Applicants do not admit, Sanshin in view of Voll fails to disclose or suggest that the second rocker arm is "adapted to engage with the first rocker arm at an angle substantially perpendicular to a center longitudinal axis of the exhaust valve," as recited in claim 9.

The Examiner is respectfully requested to reconsider and withdraw this rejection.

(b) Claims 6 and 7 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Sanshin in view of Voll, and further in view of Konno (USP 5,553,584). This rejection is respectfully traversed.

Claims 6 and 7, indirectly dependent on claim 1, are allowable at least for their dependency on claim 1.

The Examiner is respectfully requested to reconsider and withdraw this rejection.

Conclusion

Accordingly, in view of the above amendments and remarks, reconsideration of the rejections and allowance of the pending claims in the present application are respectfully requested.

The Examiner is respectfully requested to enter this Reply After Final in that it raises no new issues. Alternatively, the Examiner is respectfully requested to enter this Reply After Final in that it places the application in better form for Appeal.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Maki Hatsumi (#40,417) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or to credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

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Respectfully submitted,

By 

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